May 6, 2019

Marlene Dortch
Secretary
Federal Communications Commission
445 12th Street, NW
Washington, DC 20554

**Subject**: **Improving Wireless Resiliency, PS Docket No. 11-60**

Dear Ms. Dortch,

Hughes Network Systems, LLC ("Hughes")[1] hereby submits this ex parte in response to PS Docket No. 11-60, looking at the efficacy of the Wireless Resiliency Cooperative Framework.[2] In the Public Notice, the Public Safety and Homeland Security Bureau ("PSHSB" or the "Bureau") seeks comment on the implementation and efficacy of the Wireless Resiliency Cooperative Framework ("Framework"). As discussed herein, Hughes, while not a party to the Framework, is a broadband satellite operator and service provider whose broadband satellite services have been used extensively during times when terrestrial infrastructure is unavailable.[3] As the PSHSB looks to ensure the effectiveness of the Framework and its evolution, it is imperative that the Bureau include other technologies with proven track records in restoring communications, such as broadband satellite.

As the Bureau notes in the Public Notice, the Framework enumerates five prongs of commitment: 1) providing for reasonable roaming arrangements during disasters when technically feasible, 2) fostering mutual aid during emergencies, 3) enhancing municipal preparedness and restoration, 4) increasing consumer readiness and preparation, and 5)

[1] Hughes is the largest global provider of satellite broadband services, with approximately 1.3 million subscribers across the Americas, offering consumers throughout the United States broadband satellite services at speeds of 25/3 Mbps. Because of the nature of satellite services, the Hughes satellite system has been instrumental in providing broadband services to areas impacted by natural and man-made disasters, even when terrestrial infrastructure is not available. *See* Hughes, *Disaster Relief Support*, https://www.hughes.com/disaster-relief-support (last visited May 6, 2019) ("Hughes Disaster Relief Blog").

[2] *Public Safety and Homeland Security Bureau Seeks Comment on Improving the Wireless Resiliency Cooperative Framework*, Public Notice, DA 19-242 (Apr. 1, 2019) ("Public Notice").

[3] *See* Hughes Disaster Relief Blog.

improving public awareness and stakeholder communications on service and restoration status. As has been proven in past emergencies where terrestrial communications are damaged and not available (either wholly or in part), additional communications networks must be available and pre-deployed to ensure the continuity of communications services.[4] To this end, as explained in Annex I, it has been proven time and time again that having deployed resilient communications that enable path diversity to terrestrial networks (*i.e.,* non-terrestrial technologies, such as satellite) can make a tremendous difference in times of emergency when terrestrial communications are not available. (Additional resiliency can also be provided to mobile wireless providers when they utilize satellite for backhaul for their networks.) This was demonstrated during the response to recent hurricanes and related weather events that devastated Puerto Rico in 2017 and, more recently, Hurricane Michael. The following linked video focuses on the role of satellites in emergency communication services in Puerto Rico during the 2017 hurricanes: *Connecting Puerto Rico with HughesNet*, https://www.hughes.com/collateral-library/connecting-puerto-rico-hughesnet (last visited May 6, 2019).

Unfortunately, the lack of education on the importance of path diversity and pre-positioning, along with the lack of available funding, has limited the ability of federal, state, and local governments to adequately prepare for such emergencies. Thus, as the FCC evolves its Framework, it is imperative to consider the role of satellite technologies, including satellite broadband. Additionally, PSHSB should work with its federal, state, and local partners to provide education and adequate funding to enable the deployment of path-diverse solutions and the pre-deployment of resilient networks.

With high-speed satellite broadband services available across the continental United States, southern Alaska, Puerto Rico, and the Virgin Islands, it is possible and essential for all critical networks in these areas to prepare for terrestrial network outages. Accordingly, as the Framework evolves, PSHSB and the FCC must ensure that technologies such as broadband satellite services are included.

Respectfully submitted,

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cc: Lisa Fowlkes
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[4] *See* Hughes Comments, PS Dkt. 17-344 at 9 (Jan. 22, 2018).